

Docket No. 214904US0PCT/smr

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF: Takanobu SUGO, et al.

SERIAL NO: 09/926,382

FILED: October 23, 2001

FOR: METAL-COLLECTING APPARATUS AND METHOD FOR ELUTION AND RECOVERY OF METAL FROM METAL-COLLECTING MATERIAL

GAU:

EXAMINER:

INFORMATION DISCLOSURE/RELATED CASE STATEMENT UNDER 37 CFR 1.97

ASSISTANT COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

SIR:

Applicant(s) wish to disclose the following information.

REFERENCES

- ☒ The applicant(s) wish to make of record the references, some of which are cited in the attached International Search Report listed on the attached form PTO-1449. Copies of reference(s) AO through AS, have been received by the U.S. PCT Receiving Office from the International Bureau as acknowledged in the Notification of Acceptance.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

RELATED CASES

- ☐ Attached is a list of applicant's pending application(s) or issued patent(s) which may be related to the present application. A copy of the patent(s), together with a copy of the claims and drawings of the pending application(s) is attached along with PTO 1449.
- ☐ A check is attached in the amount required under 37 CFR §1.17(p).

CERTIFICATION

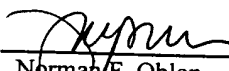
- ☐ Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement.
- ☐ No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application or, to the knowledge of the undersigned, having made reasonable inquiry, was known to any individual designated in 37 CFR §1.56(c) more than three months prior to the filing of this statement.

DEPOSIT ACCOUNT

- ☒ Please charge any additional fees for the papers being filed herewith and for which no check is enclosed herewith, or credit any overpayment to deposit account number 15-0030. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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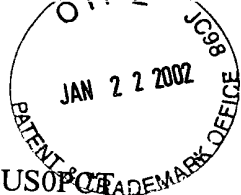
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Sheet 1 of 3

Group Art Unit:



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STATEMENT OF RELEVANCY

Reference AA (US 2,706,701) on Form 1449:

This reference discloses a stable complex of PVP and iodine. As PVP is water-soluble, the complex is also water-soluble and used as an aqueous solution. The anti-microbial material of the present invention comprises a polymer substrate having PVP graft side chains and iodine carried on the graft chains, and therefore has an extended-release ability. This structure is not taught or suggested in this reference.

Reference AB (US 2,826,532) on Form 1449:

This reference discloses a stable complex of PVP and iodine. As PVP is water-soluble, the complex is also water-soluble and used as an aqueous solution. The anti-microbial material of the present invention comprises a polymer substrate having PVP graft side chains and iodine carried on the graft chains, and therefore has an extended-release ability. This structure is neither taught nor suggested in this reference.

Reference AC (US 2,900,305 on Form 1449:

This reference discloses a stable complex of PVP and iodine. As PVP is water-soluble, the complex is also water-soluble and can be used as an aqueous solution. The anti-microbial material of the present invention comprises a polymer substrate having PVP graft side chains and iodine carried on the graft chains, and therefore has an extended-release ability. This structure is neither taught nor suggested in this reference.

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STATEMENT OF RELEVANCY**Reference AW on Form 1449:**

This reference discloses a method for recovery of metals from seawater using hollow fibers containing amidoxime groups. This reference also discloses a method for eluting recovered metals, in which 0.01N-HCl is used to elute weakly bonded elements such as magnesium and calcium, and then 1N-HCl is used to elute uranium. However, this reference is silent about the use of a stacked metal collector having specific ratio of spacer side face area to collecting material face area.

Reference AX on Form 1449:

This reference discloses a method for recovery of rare useful metals such as uranium from seawater using a fibrous metal collecting material containing amidoxime groups. This reference further discloses the use of a stacked metal collector as shown in Fig. 12. However, the stacked structure shown in Fig. 12 is substantially different from that in the present invention. In the former, adsorbent sheets are sandwiched by nets to form a block, and the blocks are laminated while a space of 8mm is provided between adjacent blocks. In the latter, the adsorbent sheets and spacers (nets) are laminated while no space is provided between adjacent layers (see Fig. 1 of the present application).

Reference AY on Form 1449:

Complex of PVP and iodine is well known as ISODINE disinfectant. This reference discloses the chemical formula of PVP/iodine complex. The ISODINE complex is water-soluble and used as an aqueous solution. The anti-microbial material of the present invention comprises a polymer substrate having PVP graft side chains and iodine carried on the graft chains, and therefore has an extended-release ability. This structure is neither taught nor suggested in this reference.

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Group Art Unit:

STATEMENT OF RELEVANCY

Reference AZ on Form 1449:

This reference discloses structure of a PVP/iodine complex. As PVP is water-soluble, the complex is also water-soluble and used as an aqueous solution. The anti-microbial material of the present invention comprises a polymer substrate having PVP graft side chains and iodine carried on the graft chains, and therefore has an extended-release ability. This structure is neither taught nor suggested in this reference.



SHEET 1 OF 1

Form PTO 1449
(Modified)U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ATTY DOCKET NO.

214904US0PCT

SERIAL NO.

09/926,382

LIST OF REFERENCES CITED BY APPLICANT

APPLICANT

Takanobu SUGO, et al.

FILING DATE

October 23, 2001

GROUP

U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPROPRIATE
	AA	2,706,701	04/19/55	Hans BELLER, et al.			
	AB	2,826,532	03/11/58	William A. HOSMER			
	AC	2,900,305	08/18/59	Sidney SIGGIA			
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						
	AL						
	AM						
	AN						

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	COUNTRY	TRANSLATION YES	NO
	AO	52-138062	11/17/77	JAPAN		
	AP	51-067216	12/09/74	JAPAN		
	AQ	58-205545	11/30/83	JAPAN		
	AR	01-141816	06/02/89	JAPAN		
	AS	56-087634	07/16/81	JAPAN		
	AT	9-290272	11/11/97	JAPAN (with partial English translation)	X	
	AU					
	AV					

OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, etc.)

	AW	Toshiya TAKEDA, et al., Ind. Eng. Chem. Res., vol. 30, No. 1, pages 201-206, "ADSORPTION AND ELUTION IN HOLLOW-FIBER-PACKED BED FOR RECOVERY OF URANIUM FROM SEAWATER", 1991
	AX	Takashi KAWAKAMI, et al., Ebara Corporation Report, no. 176, pages 40-48, "A STUDY ON THE RECOVERY OF RARE METALS FROM SEAWATER", July 1997 (with partial English translation)
	AY	Meiji SEIKA, pages 1 - 2, "EXTERNAL DISINFECTANT ISODINE SOLUTION", February 1996 (with partial English translation)
	AZ	Hans-Uwe SCHENCK, et al., Journal of Pharmaceutical Sciences, vol. 68, no. 12, pages 1505-1509, "STRUCTURE OF POLYVINYLPYRROLIDONE-IODINE (POVIDONE-IODINE)", December 1979

Examiner

Date Considered

*Examiner: Initial if reference is considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.